

## PATENT ABSTRACTS OF JAPAN

(11)Publication number : 11-065791

(43)Date of publication of application : 09.03.1999

(51)Int.Cl.

G06F 3/12  
B41J 29/38

(21)Application number : 09-240516

(71)Applicant : RICOH CO LTD

(22)Date of filing : 20.08.1997

(72)Inventor : CHIGUSA TAKAYA

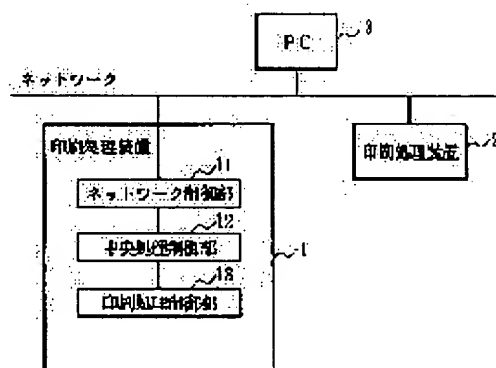
## (54) PRINTING PROCESSOR

## (57)Abstract:

PROBLEM TO BE SOLVED: To provide a printing processor capable of printing by transferring data to be printed to another printing processor on a network having a larger loading capacity when printing is unavailable due to the shortage of the capacity of a loading memory.

SOLUTION: A central processing unit 12 obtains information of the status and the capacity of a loading memory of another printing processor connected through a network controlling part 11 on a network. The central processing unit 12 judges whether or not a printing processing is unavailable due to the shortage of the capacity of its own loading memory when data to be printed are transmitted from a personal computer 3 or the

like through the network. When it is judged that the printing processing is unavailable due to the shortage of the capacity of its own loading memory, the data to be printed are transferred to another printing processor in which the capacity of a loading memory is larger based on the obtained status and capacity of the loading memory of another printing processor.



## LEGAL STATUS

[Date of request for examination]

13.06.2002

①

[Date of sending the examiner's decision of rejection]

[Kind of final disposal of application other than the examiner's decision of rejection or application converted registration]

[Date of final disposal for application]

[Patent number]

[Date of registration]

[Number of appeal against examiner's decision of rejection]

[Date of requesting appeal against examiner's decision of rejection]

[Date of extinction of right]

Copyright (C); 1998,2003 Japan Patent Office

②

**\* NOTICES \***

JPO and NCIPi are not responsible for any damages caused by the use of this translation.

1. This document has been translated by computer. So the translation may not reflect the original precisely.
2. \*\*\*\* shows the word which can not be translated.
3. In the drawings, any words are not translated.

---

**CLAIMS**

---

[Claim(s)]

[Claim 1] When the print data which are connected on a network and sent through the network are received in the printing processor which memorizes the print data in the loading memory of self, and carries out printing processing. An acquisition means to acquire the status of other printing processors connected to said network, and the capacity of loading memory, respectively, and when print data have been sent through said network. When the capacity of said loading memory of self is judged as it being insufficient and printing processing being unable to perform whether printing processing can be carried out with a judgment means to judge, and this judgment means. The printing processor characterized by providing a transfer means to transmit said print data to other printing processors with a bigger capacity of loading memory, based on the status of other printing processors which said acquisition means acquired, and the capacity of loading memory.

[Claim 2] The printing processor according to claim 1 characterized by providing a notice means to notify a user of the transmitted purport through said network when print data are transmitted to other printing processors by said transfer means.

[Claim 3] When the print data which are connected on a network and sent through the network are received in the printing processor which memorizes the print data in the loading memory of self, and carries out printing processing. An acquisition means to acquire the status of other printing processors connected to said network, and the capacity of loading memory, respectively, and when print data have been sent through said network. When the capacity of said loading memory of self is judged as it being insufficient and printing processing being unable to perform whether printing processing can be carried out with a judgment means to judge, and this judgment means. A detection means to detect whether it chose that asked a user through said network whether transmit print data to other printing processors, and a user transmitted. When it detects that this detection means chose that a user transmitted. The printing processor characterized by providing a transfer means to transmit said print data to other printing processors with a bigger capacity of loading memory, based on the status of other printing processors which said acquisition means acquired, and the capacity of loading memory.

---

[Translation done.]

3

## \* NOTICES \*

JPO and NCIPi are not responsible for any damages caused by the use of this translation.

1. This document has been translated by computer. So the translation may not reflect the original precisely.
2. \*\*\*\* shows the word which can not be translated.
3. In the drawings, any words are not translated.

---

## DETAILED DESCRIPTION

---

### [Detailed Description of the Invention]

[0001]

[Field of the Invention] This invention relates to the printing processor applied to the printer which has communication facility and a printing processing facility, facsimile, a copying machine, etc. while connecting on a network.

[0002]

[Description of the Prior Art] Conventionally, in the network printer connected on a network, if print data are sent through a network from a personal computer etc., printing processing of the print data which once memorize the print data in loading memory, and are memorized by memory will be carried out.

[0003]

[Problem(s) to be Solved by the Invention] However, in the conventional network printer, when there were many output data, since the capacity of loading memory ran short, printing processing was not completed, but there was un-arranging [ of giving up the printing processing ].

[0004] Then, the 1st purpose of this invention is by transmitting print data to other printing processors with a bigger capacity of loading memory than that on a network to offer the printing processor which makes printing possible, when it cannot print with the lack of capacity of loading memory. The 2nd purpose of this invention is to offer the printing processor which notified the user of the destination, when print data are transmitted to other printing processors. The 3rd purpose of this invention is to offer the printing processor which transmitted print data to other printing processors, after asking a user whether transmit and print print data, when it cannot be printed.

[0005]

[Means for Solving the Problem] When the print data which are connected on a network and sent through the network in invention according to claim 1 are received In the printing processor which memorizes the print data in the loading memory of self, and carries out printing processing An acquisition means to acquire the status of other printing processors connected to said network, and the capacity of loading memory, respectively, and when print data have been sent through said network When the capacity of said loading memory of self is judged as it being insufficient and printing processing being unable to perform whether printing processing can be carried out with a judgment means to judge, and this judgment means Based on the status of other printing processors which said acquisition means acquired, and the capacity of loading memory, a transfer means to transmit said print data to other printing processors with a bigger capacity of loading memory is provided, and said 1st purpose is attained.

[0006] In invention according to claim 2, in a printing processor according to claim 1, when print data are transmitted to other printing processors by said transfer means, a notice means to notify a user of the transmitted purport through said network is provided, and said 2nd purpose is attained.

[0007] When the print data which are connected on a network and sent through the network in invention according to claim 3 are received In the printing processor which memorizes the print data in the loading

memory of self, and carries out printing processing. An acquisition means to acquire the status of other printing processors connected to said network, and the capacity of loading memory, respectively, and when print data have been sent through said network. When the capacity of said loading memory of self is judged as it being insufficient and printing processing being unable to perform whether printing processing can be carried out with a judgment means to judge, and this judgment means. A detection means to detect whether it chose that asked a user through said network whether transmit print data to other printing processors, and a user transmitted. When it detects that this detection means chose that a user transmitted. Based on the status of other printing processors which said acquisition means acquired, and the capacity of loading memory, a transfer means to transmit said print data to other printing processors with a bigger capacity of loading memory is provided, and said 3rd purpose is attained. [0008]

[Embodiment of the Invention] Hereafter, the gestalt of the operation in the printing processor of this invention is explained to a detail with reference to a drawing. Drawing 1 is drawing showing the configuration of the 1st of the printing processor of the gestalt of operation of this invention, and an example of the network system to which the printing processor is connected. The personal computer (PC) 3 etc. is connected to this network other than two or more printing processors 1 and 2 concerning the gestalt of this 1st operation. The printing processor 1 consists of the network control section 11, a central-process control section 12, a printing processing control section 13, etc., as shown in drawing 1.

[0009] The central-process control section 12 has the function which acquires the information on the status of other printing processors (for example, printing processor 2 etc.) connected on a network through the network control section 11, and the capacity of loading memory, respectively. Moreover, when print data have been sent through a network from the personal computer 3 grade, the central-process control section 12 a \*\*\*\*\* [ that the capacity of the loading memory (not shown) of self is insufficient, and the printing processing of it cannot be carried out ] -- judging -- this judgment -- a result -- the self case where capacity is insufficient and printing processing cannot be carried out by loading memory -- Based on the status of other printing processors acquired as mentioned above, and the capacity of loading memory, it has the function to transmit print data to other printing processors (for example, printing processor 2 etc.) with a bigger capacity of loading memory.

[0010] When printing processing of print data is possible for the printing processing control section 13, it performs printing processing with a predetermined procedure. In addition, since the configuration and function of the printing processor 2 are the same as that of the printing processor 1 fundamentally, the explanation is omitted.

[0011] Next, the gestalt of operation of the 2nd of this invention is explained. The gestalt of this 2nd operation adds the following functions to the central-process control section 12 of the gestalt of the 1st operation. That is, although the capacity of the central-process control section concerning the gestalt of the 2nd operation is insufficient, and it transmits print data to other printing processors with a bigger capacity of loading memory by the loading memory of self like the central-process control section 12 of the gestalt of the 1st operation when printing processing cannot be carried out, it notifies a user of the purport that those print data were transmitted, by E-mail in this case. In addition, since the 2nd configuration of other parts of the gestalt of operation etc. is the same as that of the gestalt of the 1st operation, the explanation is omitted.

[0012] Next, the gestalt of operation of the 3rd of this invention is explained. The gestalt of this 3rd operation changes the 1st function of the central-process control section 12 of the gestalt of operation into the following functions. That is, the central-process control section concerning the gestalt of the 3rd operation acquires the information on the status of other printing processors connected on a network through the network control section 11, and the capacity of loading memory, respectively. Moreover, when print data have been sent through a network from the personal computer 3 grade, the central-process control section. When it is insufficient and it judges whether printing processing can be carried out, and the capacity of the capacity of the loading memory of self is insufficient by the loading memory of self as a result of this judgment and the printing processing of it cannot be carried out. It detects whether it chose that asked whether transmit print data to other printing processors with a large capacity

of loading memory, and a user transmitted to a user with an electronic mail. And when having chosen that a user transmitted is detected, based on the status of other printing processors acquired as mentioned above, and the capacity of loading memory, print data are transmitted to other printing processors with a bigger capacity of loading memory. In addition, since the 3rd configuration of other parts of the gestalt of operation etc. is the same as that of the gestalt of the 1st operation, the explanation is omitted.

[0013]

[Effect of the Invention] In invention according to claim 1, since the printing place was automatically changed to other printing processors with a bigger capacity of loading memory when it was not able to print with the lack of capacity of loading memory, it is cancelable un-arranging, such as abandonment of the printing processing which originates in lack of loading memory like before.

[0014] Since the user was notified of the point from which the capacity of loading memory changed the printing place to other bigger printing processors automatically, and changed it to them in invention according to claim 2 when it was not able to print with the lack of capacity of loading memory, a user can know that and is expedient.

[0015] Since the user enabled it to choose whether a printing place is changed to other printing processors with a bigger capacity of loading memory in invention according to claim 3 when it was not able to print with the lack of capacity of loading memory, the selection of a user does and is expedient.

---

[Translation done.]

**\* NOTICES \***

JPO and NCIPi are not responsible for any damages caused by the use of this translation.

1. This document has been translated by computer. So the translation may not reflect the original precisely.
2. \*\*\*\* shows the word which can not be translated.
3. In the drawings, any words are not translated.

---

**TECHNICAL FIELD**

---

[Field of the Invention] This invention relates to the printing processor applied to the printer which has communication facility and a printing processing facility, facsimile, a copying machine, etc. while connecting on a network.

---

[Translation done.]

\* NOTICES \*

JPO and NCIPi are not responsible for any damages caused by the use of this translation.

1. This document has been translated by computer. So the translation may not reflect the original precisely.
2. \*\*\*\* shows the word which can not be translated.
3. In the drawings, any words are not translated.

---

PRIOR ART

---

[Description of the Prior Art] Conventionally, in the network printer connected on a network, if print data are sent through a network from a personal computer etc., printing processing of the print data which once memorize the print data in loading memory, and are memorized by memory will be carried out.

---

[Translation done.]

8



\* NOTICES \*

JPO and NCIPi are not responsible for any damages caused by the use of this translation.

1. This document has been translated by computer. So the translation may not reflect the original precisely.
2. \*\*\*\* shows the word which can not be translated.
3. In the drawings, any words are not translated.

---

EFFECT OF THE INVENTION

---

[Effect of the Invention] In invention according to claim 1, since the printing place was automatically changed to other printing processors with a bigger capacity of loading memory when it was not able to print with the lack of capacity of loading memory, it is cancelable un-arranging, such as abandonment of the printing processing which originates in lack of loading memory like before.

[0014] Since the user was notified of the point from which the capacity of loading memory changed the printing place to other bigger printing processors automatically, and changed it to them in invention according to claim 2 when it was not able to print with the lack of capacity of loading memory, a user can know that and is expedient.

[0015] Since the user enabled it to choose whether a printing place is changed to other printing processors with a bigger capacity of loading memory in invention according to claim 3 when it was not able to print with the lack of capacity of loading memory, the selection of a user does and is expedient.

---

[Translation done.]

\* NOTICES \*

JPO and NCIPi are not responsible for any damages caused by the use of this translation.

1. This document has been translated by computer. So the translation may not reflect the original precisely.
2. \*\*\*\* shows the word which can not be translated.
3. In the drawings, any words are not translated.

---

TECHNICAL PROBLEM

---

[Problem(s) to be Solved by the Invention] However, in the conventional network printer, when there were many output data, since the capacity of loading memory ran short, printing processing was not completed, but there was un-arranging [ of giving up the printing processing ].

[0004] Then, the 1st purpose of this invention is by transmitting print data to other printing processors with a bigger capacity of loading memory than that on a network to offer the printing processor which makes printing possible, when it cannot print with the lack of capacity of loading memory. The 2nd purpose of this invention is to offer the printing processor which notified the user of the destination, when print data are transmitted to other printing processors. The 3rd purpose of this invention is to offer the printing processor which transmitted print data to other printing processors, after asking a user whether transmit and print print data, when it cannot be printed.

---

[Translation done.]

(10)

## \* NOTICES \*

JPO and NCIPi are not responsible for any damages caused by the use of this translation.

1. This document has been translated by computer. So the translation may not reflect the original precisely.
2. \*\*\*\* shows the word which can not be translated.
3. In the drawings, any words are not translated.

---

MEANS

---

[Means for Solving the Problem] When the print data which are connected on a network and sent through the network in invention according to claim 1 are received In the printing processor which memorizes the print data in the loading memory of self, and carries out printing processing An acquisition means to acquire the status of other printing processors connected to said network, and the capacity of loading memory, respectively, and when print data have been sent through said network When the capacity of said loading memory of self is judged as it being insufficient and printing processing being unable to perform whether printing processing can be carried out with a judgment means to judge, and this judgment means Based on the status of other printing processors which said acquisition means acquired, and the capacity of loading memory, a transfer means to transmit said print data to other printing processors with a bigger capacity of loading memory is provided, and said 1st purpose is attained.

[0006] In invention according to claim 2, in a printing processor according to claim 1, when print data are transmitted to other printing processors by said transfer means, a notice means to notify a user of the transmitted purport through said network is provided, and said 2nd purpose is attained.

[0007] When the print data which are connected on a network and sent through the network in invention according to claim 3 are received In the printing processor which memorizes the print data in the loading memory of self, and carries out printing processing An acquisition means to acquire the status of other printing processors connected to said network, and the capacity of loading memory, respectively, and when print data have been sent through said network When the capacity of said loading memory of self is judged as it being insufficient and printing processing being unable to perform whether printing processing can be carried out with a judgment means to judge, and this judgment means A detection means to detect whether it chose that asked a user through said network whether transmit print data to other printing processors, and a user transmitted, When it detects that this detection means chose that a user transmitted Based on the status of other printing processors which said acquisition means acquired, and the capacity of loading memory, a transfer means to transmit said print data to other printing processors with a bigger capacity of loading memory is provided, and said 3rd purpose is attained.

[0008]

[Embodiment of the Invention] Hereafter, the gestalt of the operation in the printing processor of this invention is explained to a detail with reference to a drawing. Drawing 1 is drawing showing the configuration of the 1st of the printing processor of the gestalt of operation of this invention, and an example of the network system to which the printing processor is connected. The personal computer (PC) 3 etc. is connected to this network other than two or more printing processors 1 and 2 concerning the gestalt of this 1st operation. The printing processor 1 consists of the network control section 11, a central-process control section 12, a printing processing control section 13, etc., as shown in drawing 1.

[0009] The central-process control section 12 has the function which acquires the information on the status of other printing processors (for example, printing processor 2 etc.) connected on a network through the network control section 11, and the capacity of loading memory, respectively. Moreover, when print data have been sent through a network from the personal computer 3 grade, the central-

11

process control section 12 a \*\*\*\*\* [ that the capacity of the loading memory (not shown) of self is insufficient, and the printing processing of it cannot be carried out ] -- judging -- this judgment -- a result -- the self case where capacity is insufficient and printing processing cannot be carried out by loading memory -- Based on the status of other printing processors acquired as mentioned above, and the capacity of loading memory, it has the function to transmit print data to other printing processors (for example, printing processor 2 etc.) with a bigger capacity of loading memory.

[0010] When printing processing of print data is possible for the printing processing control section 13, it performs printing processing with a predetermined procedure. In addition, since the configuration and function of the printing processor 2 are the same as that of the printing processor 1 fundamentally, the explanation is omitted.

[0011] Next, the gestalt of operation of the 2nd of this invention is explained. The gestalt of this 2nd operation adds the following functions to the central-process control section 12 of the gestalt of the 1st operation. That is, although the capacity of the central-process control section concerning the gestalt of the 2nd operation is insufficient, and it transmits print data to other printing processors with a bigger capacity of loading memory by the loading memory of self like the central-process control section 12 of the gestalt of the 1st operation when printing processing cannot be carried out, it notifies a user of the purport that those print data were transmitted, by E-mail in this case. In addition, since the 2nd configuration of other parts of the gestalt of operation etc. is the same as that of the gestalt of the 1st operation, the explanation is omitted.

[0012] Next, the gestalt of operation of the 3rd of this invention is explained. The gestalt of this 3rd operation changes the 1st function of the central-process control section 12 of the gestalt of operation into the following functions. That is, the central-process control section concerning the gestalt of the 3rd operation acquires the information on the status of other printing processors connected on a network through the network control section 11, and the capacity of loading memory, respectively. Moreover, when print data have been sent through a network from the personal computer 3 grade, the central-process control section When it is insufficient and it judges whether printing processing can be carried out, and the capacity of the capacity of the loading memory of self is insufficient by the loading memory of self as a result of this judgment and the printing processing of it cannot be carried out It detects whether it chose that asked whether transmit print data to other printing processors with a large capacity of loading memory, and a user transmitted to a user with an electronic mail. And when having chosen that a user transmitted is detected, based on the status of other printing processors acquired as mentioned above, and the capacity of loading memory, print data are transmitted to other printing processors with a bigger capacity of loading memory. In addition, since the 3rd configuration of other parts of the gestalt of operation etc. is the same as that of the gestalt of the 1st operation, the explanation is omitted.

---

[Translation done.]

A2

\* NOTICES \*

JPO and NCIPI are not responsible for any damages caused by the use of this translation.

1. This document has been translated by computer. So the translation may not reflect the original precisely.
2. \*\*\*\* shows the word which can not be translated.
3. In the drawings, any words are not translated.

---

DESCRIPTION OF DRAWINGS

---

[Brief Description of the Drawings]

[Drawing 1] It is drawing showing the configuration of the 1st of the printing processor of the gestalt of operation of this invention, and an example of the network system to which the printing processor is connected.

[Description of Notations]

- 1 Two Printing processor
- 3 Personal Computer (PC)
- 11 Network Control Section
- 12 Central-Process Control Section
- 13 Printing Processing Control Section

---

[Translation done.]

\* NOTICES \*

JPO and NCIPI are not responsible for any damages caused by the use of this translation.

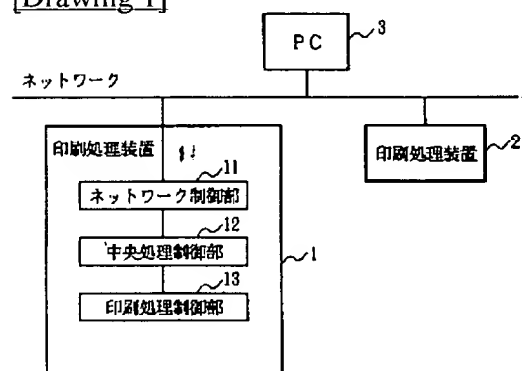
1. This document has been translated by computer. So the translation may not reflect the original precisely.
2. \*\*\*\* shows the word which can not be translated.
3. In the drawings, any words are not translated.

---

DRAWINGS

---

[Drawing 1]



---

[Translation done.]